LIABILITY IN THE DIAGNOSIS AND TREATMENT OF MYOCARDIAL INFARCTION: THE PHYSICIAN INSURERS ASSOCIATION OF AMERICA STUDY

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Failure to promptly diagnose and treat myocardial infarction is a frequent allegation in medical malpractice claims. In emergency medicine alone, missed myocardial infarctions (MI) account for at least 10 percent of malpractice cases.[1] The frequency of such claims is reported to be similarly high among practitioners in Family Practice and Internal Medicine.[2] The specter of the "missed MI," due to atypical presentation or other factors, haunts practitioners across specialty lines. Moreover, because of the catastrophic consequences often attached to myocardial infarctions, dollars paid in subsequent settlements or successful lawsuits have been among the highest, accounting for 25.4 percent of all dollar losses in emergency medicine alone.[3]

In seeking to achieve the sometimes elusive goals of prompt diagnosis and treatment of all patients with myocardial infarction, risk managers have developed and promulgated standard policy guidelines which suggest a thorough physical examination and laboratory evaluation of all patients presenting with a chief complaint consistent with MI.[4] As previously reported in this publication, primary care practitioners consider a patient's history as one of the principal determinants regarding admission.[5] Furthermore, sufficient documentation of patient history is often crucial to the successful defense of a malpractice suit.[6] Finally, the high level of concern for expeditiously identifying and treating high risk patients has led to the advent of "chest pain diagnostic and treatment centers" in emergency departments, which can both administer prompt thrombolytic therapy and increase diagnostic capability.[7] The subsequent reduction in unnecessary admissions to the coronary care unit conserves limited inpatient resources.[8]

With this background, the Physician Insurers Association of America ("PIAA"), an association of large malpractice insurance carriers, undertook a study of its member companies' myocardial infarction claims.[9] The goal of the study was to assist physicians in recognizing the risk factors and symptoms relevant to insurers, and ultimately to improve patient care and prevent loss due to acute myocardial infarction.

Drawing upon PIAA's massive database of 142,000 claims and suits collected over a ten-year period, information was obtained regarding not only the presenting signs and symptoms, but also patient outcomes and disposition of claims. The study's major findings were drawn from 349 paid cases involving diagnostic and therapeutic misadventures relating to myocardial infarctions. Of the 349 cases studied, 195 related to diagnostic errors, 45 were related to therapeutic errors, and 109 were alleged diagnostic and therapeutic errors attributed to the same provider.

Patient demographics revealed that of these 349 patients, 71 percent were male and more than half of the male patients were less than 50 years of age. The average patient age, including both males and females, was 52. Not surprisingly, the individual amounts of the paid claims were higher among younger patients. In fact, for those patients in the 30 to 39 age group, the average payment was $471,000. This high figure is explained by the fact that such damages are meant to replace lost wages in the case of these younger individuals.

The study confirmed some previously held beliefs and shed new light on other clinical factors. As expected, a high incidence of risk factors was found among the individuals who suffered a myocardial infarction. Of this group, 44 percent had hypertension, while 43 percent smoked and 22 percent suffered from hypercholesterolemia. Yet, more than two-thirds reported no prior history of coronary artery disease, while 83 percent had a negative history of a prior myocardial infarction.

Overall, 77 percent of the 349 patients in the study died. As expected, older patients died at a slightly higher rate. For instance, 58 percent of patients in the group 20-29 years of age expired as a result of a diagnostic or therapeutic error, as opposed to 96 percent of patients in the group of those 60 to 69 years of age.

Regarding provider specialty data, in a series of 495 defendants in which claims were paid, family physicians were sued most frequently, followed by internists and emergency physicians. (See Table 1). Cardiologists appeared as defendants fewer times in the studied series of paid claims. Surprisingly, payments for the misadventures of physician extenders as primary providers were rare.

In slightly more than half the cases resulting from diagnostic errors alone, or diagnostic errors coupled with therapeutic errors, the initial contact with the patient occurred in the provider's office. In one-third of these cases, the patient presented to the emergency department.

Of the cases involving misdiagnosis, the provider's initial impression is most interesting. Where the correct diagnosis of myocardial infarction was missed, the provider's most common impression was a gastrointestinal disorder (26 percent), followed by musculoskeletal pain (21 percent) and respiratory ailments such as pneumonia or bronchitis (6 percent). (See Figure 1)

PAYMENTS ON BEHALF OF SPECIALISTS*

Specialty	Number of Payments
Family/General Practice	160
Internal Medicine	109
Emergency Medicine	75
Other Specialties	35
Cardiology	34
Surgical Specialty	9
Physician Extenders	4
Corporation	12
Hospital	57
TOTAL	495

*In the 349 paid cases, 495 specialists had payments made on their behalf.

TABLE 1

Ninety-three percent of the patients, who were misdiagnosed, had complained of chest pain or pressure, while 83 percent specifically complained of chest pain. A more confusing presenting symptom of dyspnea was included in 29 percent of claims, while diaphoresis was complained of in 19 percent of the cases.

Surprisingly, 28 percent of misdiagnosed patients subsequently found to have suffered a myocardial infarction were not subjected to any diagnostic studies. The most commonly ordered study, performed on 59 percent of patients, was an electrocardiogram. Cardiac enzymes, chest radiographs and other tests were performed less frequently. (See Figure 2).

Investigation of negligence in the provider treatment found that treatment errors occurred in 154 individual cases. The most common treatment error was a failure or a delay to hospitalize the patient, occurring in 70 claims. In 22 instances, no treatment at all was provided. Medication errors were cited in 17 claims; the most prevalent error was the administration of a calcium channel blocker followed by anticoagulants.

PROVIDER'S INITIAL IMPRESSION IN CASES WITH MISDIAGNOSIS

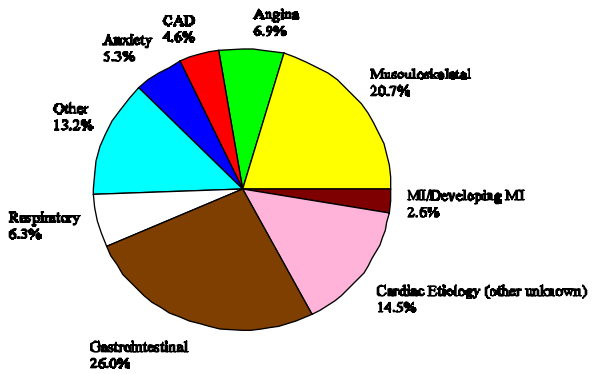

FIGURE 1

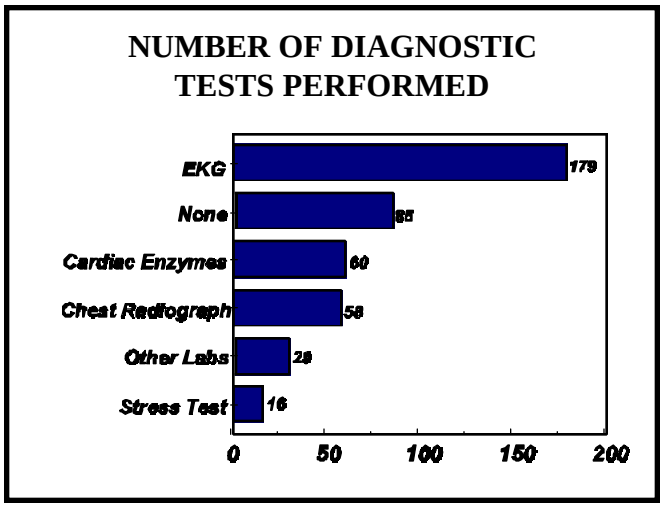

FIGURE 2

Because the study included claims with incident dates starting in January 1985, some claims occurred before the inception of thrombolytic therapy in myocardial infarction. Nonetheless, in claims in which thrombolytic therapy was available and information was present regarding its use, the failure to use or delay in using thrombolytic therapy was cited as a factor contributing to allegations of negligence in one-quarter of such claims.

The PIAA study provides an excellent illustration that in order to enhance patient care and limit liability, a high index of suspicion for coronary artery disease is warranted. This same caution should be maintained whether the patient is first seen in the office or the Emergency Department, as more misdiagnoses occurred during office visits.

Youth and lack of a history of heart disease should not mislead providers, as 70 percent of patients who subsequently infarcted reported no heart disease, and 47 percent were under age 50. The female gender also should not be regarded as protective.

Even with advanced technology, the study documents that there is no substitute for a thorough, complete history. Likewise, an electrocardiogram in adult chest pain patients is mandatory in the absence of trauma. A normal EKG does not, however, exclude a cardiac etiology.

In short, the PIAA study of closed claims provides an outstanding example of how retrospective claims analysis has both clinical utility and patient benefit, along with loss prevention potential.

REFERENCES

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6. Id.

7. Madias J, Acute myocardial infarction: Shifting paradigms of diagnosis and care in a cost-conscious environment. 108 Chest 1483 (1995).

8. Id.

9. Acute Myocardial Infarction Study, Physician Insurers Association of America, 1996, p. 1.

See PIAA Summary of Recommendations Next Page

SUMMARY OF PIAA RISK MANAGEMENT RECOMMENDATIONS

- Document all patient complaints relative to pain/pressure and its location.
- Document any family history of heart disease.
- Request a thorough personal history of heart disease.
- Complete profiles on patients which identify significant risk factors for heart disease.
- Request and document the results of any previous evaluative cardiac studies.
- Compare the results of the present study to any previous studies performed, if available.
- Document the recommendations for subsequent diagnostic studies and follow-up treatment.
- Follow-up with other physician consultants regarding test results, etc.
- Do not rule out this diagnosis in younger patients that display positive risk factors or prior history.
- Do not abandon diagnostic pursuit because you are unimpressed by the results of diagnostic testing.
- Promptly report any positive findings from diagnostic testing to the referring physician.
- A patient presenting with any symptoms indicative of this condition should be evaluated, referred and/or admitted until the diagnosis has been ruled out.
- If clinical suspicion is present, in spite of unchanged or negative electrocardiogram, recommend an exercise tolerance test.
- Have the same index of suspicion for the patient who presents in the office as for the patient who presents in the Emergency Department or Urgent Care Center.